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OPERATION PAUKENSCHLAG: AN OPERATIONAL ANALYSIS

by
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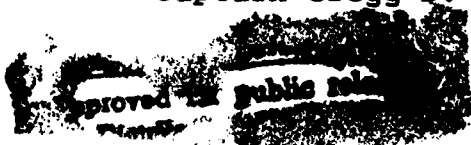
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The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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Abstract of
OPERATION PAUKENSCHLAG: AN OPERATIONAL ANALYSIS

Operation Paukensschlag, a German U-boat operation against Allied shipping along the East Coast of the United States and Canada in early 1942, is analyzed from the perspective of the operational level of war. The plan and its execution are examined to provide conclusions and lessons learned for future operational planning considerations. Chapter One provides a short historical summary of the German U-boat Force and the Battle of the Atlantic. Chapter Two analyzes the operational design of Paukensschlag. Chapter Three discusses the execution of the operation. Finally, Chapter Four offers information from the operation which could be useful for future commanders. This analysis of Operation Paukensschlag shows that an operation conceived, planned, and executed in as short as time as Paukensschlag was, can be successful, provided several critical factors prevail. These factors range from the anticipatory change or maneuver of theater operational fires, to the selected use of highly trained and combat proven personnel. Other factors include surprise, proper use of limited resources, and finally good communications and intelligence. The value of this type of analysis is proof of the importance of historical operations analysis, and its contribution to the understanding of operational art.

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PREFACE

Operation Paukensschlag, one of the most successful operations of the German maritime campaign for the Atlantic, occurred from January to February 1942. During this period, German U-boats conducted unrestricted submarine warfare against Allied shipping along the East Coast of the United States and Canada. This operation focused Germany's most formidable, combat proven naval weapon against an unprepared enemy.

The U-boats capitalized specifically on America's inadequate war preparations, inflicting devastating losses on Allied shipping. The five U-boats deployed to the Western Atlantic nearly tripled the total worldwide Allied merchant shipping tonnage losses from December 1941 to January 1942, and accounted for nearly half the tonnage sunk in January.

This highly successful operation marked the beginning of an equally successful period for the U-boat Force in the Battle of the Atlantic, and greatly bolstered German morale in the hope of winning it.

Why was this operation so highly successful? This paper analyzes key elements of Admiral Doenitz's operational plan to identify strengths and weaknesses. In addition, the strategic and operational decisions, as well as the factors which led to the success of the operation are also examined. While a superficial look at Paukensschlag would indicate that the ultimate success of this operation can be attributed principally to tactical actions, this paper focuses exclusively on the more

important strategic and operational components of Paukensschlag that provided the basis for tactical success, and which illustrate how Admiral Doenitz practiced operational art.

This analysis of Operation Paukensschlag is structured to present background historical information which preceded its execution, an explanation of the operational plan, an examination of the plan, and a post operation summary. Finally, it presents conclusions and lessons learned from the operation which may be useful for the planning and conduct of future operations.

Special Note. I would like to especially thank Professor Steven T. Ross of the Strategy and Policy Department for his time and efforts in ensuring the historical correctness of this paper, and for his insightful comments and recommendations. Additionally, I would like to thank Captain Dick Hartman, USN, of the Joint Military Operations Department for his "operational" guidance in the development of this paper. Finally, special appreciation is expressed to Lieutenant Commander Tim Dunigan, USN, of the Center for Naval Warfare Studies for his expert proofing and editing.

TABLE OF CONTENTS

CHAPTER	PAGE
ABSTRACT	ii
PREFACE	iii
TABLE OF CONTENTS	v
LIST OF ILLUSTRATIONS	vi
I INTRODUCTION	1
Summary of U-boat Operations 1939-1941	3
United States Entrance into World War II	5
II PLANS	7
Operation <u>Paukensschlag</u> Decision	7
Planning Factors and Considerations	8
Operation <u>Paukensschlag</u>	11
Operational/Communications Security	13
Operational Design	14
Operational Guidance by Admiral Doenitz	14
Strategic and Operational Objectives	15
Enemy Critical Factors	16
Operational Scheme	16
Culminating Point	16
Operational Maneuver	17
Operational Coordination/Synchronization	18
Operational Fires	18
Operational Deception	19
Operational Reconnaissance/Intelligence	19
Operational Sustainment	20
Operational Sequencing/Phasing	21
III EXECUTION	23
Historical Summary	23
Determination of Mission Accomplishment	25
Consolidation of Operational Success	26
IV CONCLUSIONS	28
Lessons Learned	28
Notes	32
Bibliography	35

LIST OF ILLUSTRATIONS

FIGURE	PAGE
1. Organizational Structure - January 1942	10
2. Atlantic Ocean	14
3. Location of U-boats Upon Commencement of <u>Paukensschlag</u>	24
4. Tonnage Sunk by U-boats Worldwide December 1941 - January 1942	25

OPERATION PAUKENSCHLAG



AN OPERATIONAL ANALYSIS

OPERATION PAUKENSCHLAG: AN OPERATIONAL ANALYSIS

CHAPTER I

INTRODUCTION

"The Battle of the Atlantic was the dominating factor all through the war. Never for one moment could we forget that everything happening elsewhere, on land, at sea, or in the air, depended ultimately on its outcome, and amid all other cares we viewed its changing fortunes day by day with hope or apprehension."

- Winston Churchill

"The only thing that truly worried me was the U-boat menace."

- Winston Churchill

German Admiral Karl Doenitz was one of the greatest operational commanders and artists in the history of modern warfare. Commander of the German U-boat Force during World War II, he carried out the strategic efforts of the German Navy as directed by Admiral Eric Raeder, Commander of the German Navy, and as envisioned by the German High Command and Supreme Commander -- Adolf Hitler.

By mid-1940, Admiral Doenitz had become the principal operational commander for the Atlantic theater of war due to the ineffectiveness and loss of many German surface raiders. In the maritime campaign for the Atlantic, the German High Command assigned the German Navy, and thus the U-boat Force (at the operational level), the strategic task of waging war on shipping,

with Britain as the principal enemy, in order to achieve the strategic objective of driving them from the war through economic strangulation.¹ Therefore, in the Battle of the Atlantic, the U-boat Force's operational objective, as defined by Admiral Doenitz, "was to sink as many enemy merchant ships as it could, because the sinking of ships was the only thing that counted."² Admiral Doenitz felt that "only by destroying Allied shipping could Germany deal Britain a decisive blow, as its life and ability to wage war depended on it."³ Sinking ships meant denying Britain critical supplies and war materials which could eventually drive them from the war.

Hitler, however, was more interested in land campaigns and operations, and did not accord the maritime campaign for the Atlantic a high priority. Consequently, the U-boat Force did not enjoy the support or resources it required to ultimately be successful in the German Navy's strategic task. Furthermore, Hitler frequently overrode the operational commander and misdirected the U-boat Force to other tasks, in other theaters, as he saw fit, instead of where they could have been more effectively used -- the Atlantic.

Despite these hindrances, the operational brilliance of Admiral Doenitz brought Germany close to winning the Battle of the Atlantic on several occasions. This was principally because, for most of the war, he was able to maintain his U-boat Force on the offensive against British and Allied shipping through operational maneuver.⁴ One of these occasions began in December 1941 with Admiral Doenitz's maneuver of available U-boats for an

operation he called Paukensschlag.

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Summary of U-boat Operations 1939-1941. The success of the U-boat Force in the first two years of the maritime campaign for the Atlantic was remarkable, considering its size and misdirection by Hitler. When contemplating the havoc U-boats wreaked on shipping, it is amazing that the average number of combat capable U-boats in the first two years of the war was only 31. This was far below the 100 combat capable boats, out of the desired Fleet of 300, that Admiral Doenitz had envisioned as necessary to win the Battle of the Atlantic.⁵ When further divided by U-boat operating areas, and with the added complication of long transit times to and from some of these areas, it meant few boats were actively engaged against enemy shipping in any one area. This was especially true in the Atlantic where British shipping was most plentiful, and where arguably U-boats would be quantitatively more effective.

Admiral Doenitz recognized the limitations placed on his small U-boat Force. A true operational commander, artist, and above all opportunist, he tried to take advantage of changing theater conditions to best employ the limited U-boat assets he had available to maximize the opportunity for achievement of his operational objective.

From the fall of 1939 through early 1941, Admiral Doenitz directed his U-boat Force's operational fires in a dispersed fashion around the British Isles and in the North Atlantic against independently sailing British shipping with great

success. In mid-1941, as Admiral Doenitz had anticipated, defense measures improved around Britain which caused U-boat losses to increase and merchant sinkings to decrease. Accordingly, he shifted his operational fires away from the British Isles to the mid-Atlantic, and instituted "Rudeltaktik" to counter convoys and other anti-submarine measures. His successful shift of fires began a period which the U-boat Force called their "First Happy Time", and was highlighted by significant losses to British shipping.

In addition to executing the primary mission of the German Navy, Admiral Doenitz also had to contend with the misdirection of his U-boat Force by Hitler. From 1940 through mid-1941, a majority of the U-boat Force was preemptively ordered away from its principal task in the Atlantic to support land campaigns and operations, including Norway, Russia, and North Africa. In November 1941, Hitler declared North Africa a decisive theater for the U-boat Force to support. Once again, he redirected it away from its primary mission, to the Mediterranean. Therefore, by late 1941, the "Happy Time" had faded, due to lack of U-boats in the Atlantic, the place where they could be most effective.

However, world events soon provided another opportunity for Admiral Doenitz to refocus his U-boat Force back to its principal mission, and where they could be most effective. December 1941

* This German term describes the use of U-boats as a "submarine screen." Designed by Admiral Doenitz, the concept was to mass several U-boats along a patrol line on a convoys track, and then engage the convoy in a radio-coordinated attack. Admiral Doenitz controlled the screen from his headquarters.

marked the beginning of the next significant phase of Germany's maritime campaign for the Atlantic, and Operation Paukensschlag was its highlight.

United States Entrance into World War II. Even prior to 7 December 1941, the United States was already embroiled in the Battle of the Atlantic. Concerned by the threat posed by German U-boats, the United States declared a Security Zone on 5 September 1939, which extended from their East Coast to the central Atlantic, and tasked their Navy to escort British shipping as of 1 April 1941.⁶ In view of this, and after a U-boat attacked an American battleship in the declared German blockade area around Britain, on 21 June 1941, Hitler gave explicit direction to the U-boat Force not to engage American ships except for defensive action, even in the blockade area.⁷ This completely frustrated Admiral Doenitz, and was another limiting factor he had to contend with. The fact remained, however, that Hitler intended to avoid repeating Germany's World War I mistake of driving America into the war against Germany due to actions of the U-boat Force.

However, there were still several encounters between both forces. In September 1941, after the near torpedoing of an American destroyer by a U-boat^b, the United States ordered its Navy to use all available force to capture or destroy Axis commerce raiders as it encountered them. This "shoot-on-sight"

^b The U-boat was first attacked by the destroyer.

order brought the United States into a de facto state of war with Germany. Although in an intolerable position, Hitler remained committed to his previous direction. Despite this, the confrontations continued, and by November 1941, one American destroyer had been torpedoed and one sunk.

As the undeclared war raged in the Atlantic between the United States and Germany, Japan attacked Pearl Harbor on 7 December 1941. On 9 December, Hitler removed all restrictions placed on U-boats with regard to the United States. On 11 December, Germany declared war on America.

In September 1941, when tensions were rising with America, Admiral Doenitz had asked the German High Command for timely warning if America was to be drawn into the war so that he could have U-boats positioned in American waters ready to strike, and take advantage of potentially favorable initial American wartime conditions.⁸ However, Japan's attack on the United States caught Germany unaware, and a coincidental positioning of U-boats was not to be. Admiral Doenitz was resolved, though, to take advantage of the change in the Atlantic theater, and once again shift his operational fires in support of his primary mission. He quickly conceived and had approved by Hitler a plan that was perhaps his most successful U-boat operation in the Atlantic -- Operation Paukenschlag.

CHAPTER II

PLANS

Operation Paukenschlag Decision. In June 1941, the German Naval Staff concluded that if the U-boat Force could sink 700,000^a tons of British shipping per month in 1942, it could deal a decisive blow to Britain.¹ However, in 1941, the U-boat Force averaged only 230,000 tons sunk per month.² This lack of tonnage was attributable to the misdirection of the U-boat Force by Hitler, lack of U-boats, and improved British defense measures^b. At the beginning of 1942, there was generally less than twelve U-boats engaged in their principal mission, anti-shipping, out of a total of 91 combat capable.³ Only five were in the Atlantic.⁴ The large majority were supporting German campaigns and operations elsewhere (see Figure 1 footnote).

The diversion of Admiral Doenitz's small U-boat Force to support other operations, where it was less useful in its principal mission, frustrated him. He repeatedly argued with Admiral Raeder to permit him to use more of his force in the maritime campaign for the Atlantic. Admiral Doenitz contended that the sinking of shipping was causing Britain great anxiety,

^a This was the tonnage figure that the Naval High Command felt was necessary to sink to prevent an increase in Britain's total shipping tonnage. As wartime shipping requirements increased, and shipping decreased, the Naval High Command hoped the mismatch would have grave consequences for Britain.

^b Specifically convoys, radar, and air anti-submarine warfare.

and that the U-boat Force could be decisive against Britain.⁵ He seldom won these arguments.

When America was officially drawn into the war by Japan, and it was clear that Germany considered the United States an enemy, Admiral Doenitz acted quickly. He knew the greatest source of British strength and survival flowed from America. Both he and Admiral Raeder reasoned that a strike closer to this source, at a time when America was unprepared and would probably be directing its efforts primarily against Japan, would significantly bolster shipping tonnage sunk per month and cripple Britain.⁶ It was in this light that on 9 December 1941, even before Germany declared war on the United States, Admiral Doenitz requested permission to conduct an anti-shipping operation along the East Coast of the United States and Canada, a new operations area for his U-boat Force. It was personally approved by Hitler on 12 December. Admiral Doenitz and his staff, led by his chief of operations, Captain Eberhard Godt, quickly planned the operation.

Planning Factors and Considerations. Admiral Doenitz calculated that based on the total number of combat capable U-boats available, the maximum number he could hope to use for Paukensschlag was 12 (see Figure 1 footnote).⁷ However, because Hitler considered North Africa a decisive theater for the U-boat Force to support, and wanted the majority of the force in the Mediterranean, Admiral Doenitz was permitted to use only six. In fact, due to mechanical problems, just five deployed.

Surprise and unpreparedness of the enemy were two

significant factors which Admiral Doenitz hoped to take advantage. American defense measures were not believed to be adequate for war. Additionally, German Intelligence had determined that shipping in American coastal waters was neither fully escorted, nor convoyed to the convoy assembling points for the trans-Atlantic voyage to Britain. Both situations made the shipping highly vulnerable to attack. These conditions were also similar to those enjoyed by the U-boat Force at the beginning of the war in British waters. Admiral Doenitz wanted to take advantage of this opportunity while it lasted because he recognized that it would not take long before America was fully mobilized for war and defense measures were strengthened.'

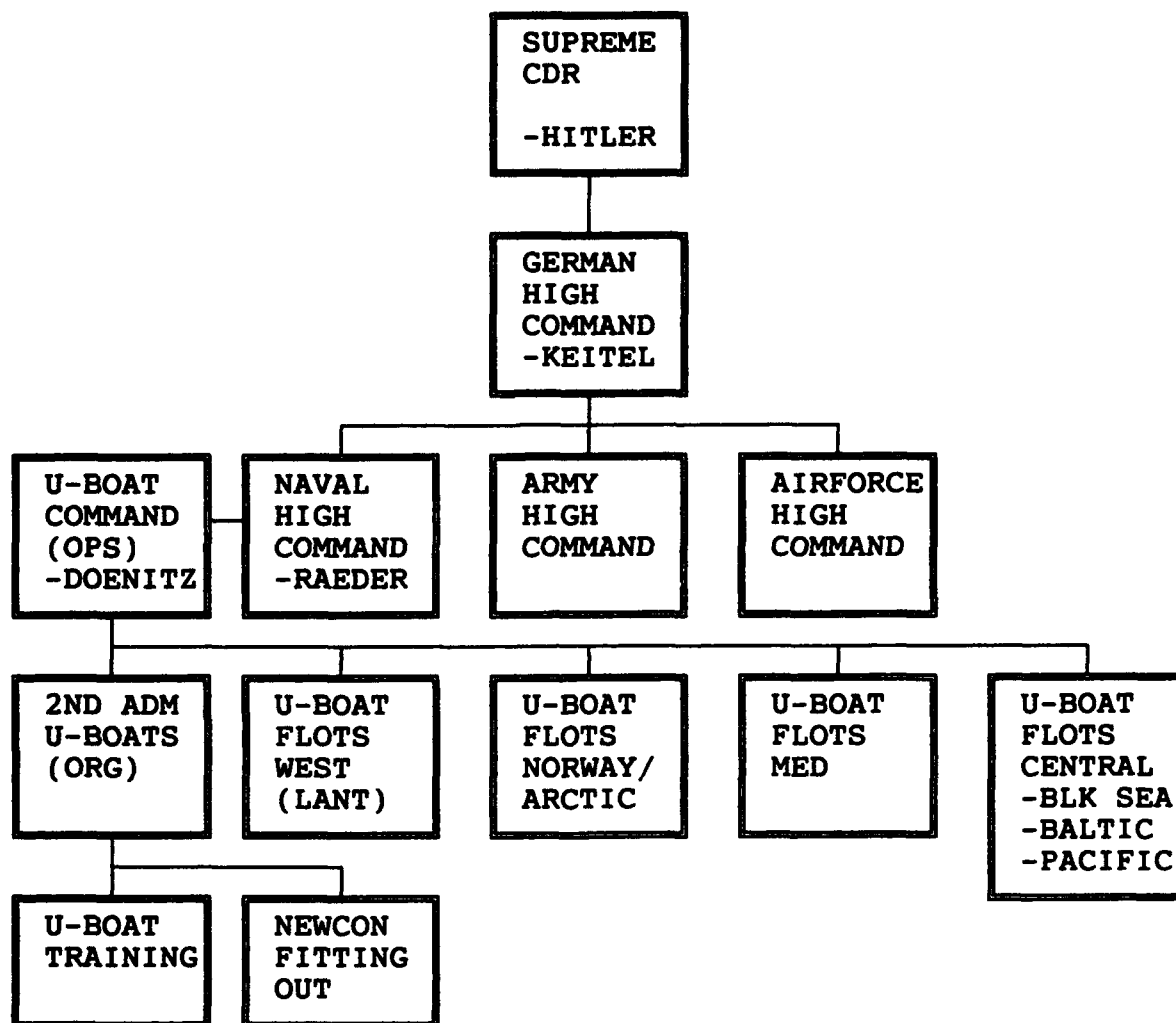
Admiral Doenitz probably also felt that the Americans would not suspect an undertaking of this magnitude against them so soon, and, in fact, the author would further argue that in December 1941, the United States Navy did not appreciate the operational reach of Admiral Doenitz's U-boat Force.

Admiral Doenitz believed that the operation's potential gain had little risk involved. Relative to the other uses of his operational fires, Paukenschlag had the most promise for success toward the U-boat Force's primary mission, the least probability for U-boat losses, and could easily be cancelled if warranted.'

Figure 1 represents the organizational structure of the U-boat Force in January 1942. Of note, several U-boat Flotillas were assigned to each area. These flotillas prepared the U-boats for deployment but did not exercise operational control over them. Control remained with Admiral Doenitz at his headquarters.

FIGURE 1

ORGANIZATIONAL STRUCTURE - JANUARY 1942^c



^c According to Memoirs (p. 197), on 1 January 1942, of the total Fleet of 272 U-boats, only 91 were combat capable. 23 were in the Mediterranean with three more enroute, six were stationed West of Gibraltar, four were along the Norwegian coast. Of the remaining 55, 33 were being repaired.

The final 22 were at sea conducting anti-shipping operations, but about half of these were enroute to or from their bases. Thus, after two and a half years of war, only 10 or 12 boats were actively engaged against shipping, and only five were in the Atlantic.

Operation Paukenschlag. A successful operation can usually be defined by how well it evolves from a concept to reality. Further, the most important part in the development of an operation is the successful translation of the concept into proper tasking. Paukenschlag is an outstanding example.

Admiral Doenitz named the operation Paukenschlag⁴. He felt the U-boat Force's first venture in American waters should deliver a tremendous and sudden blow -- "like the roll of the kettle drums." Intended were quick, violent sinkings, and resounding psychological shock.¹⁰ His idea was to have the five U-boats strike their first targets from widely dispersed points in the operations area on the same day to scatter and confuse defending forces, prevent friendly interference between the U-boats, and spoil any enemy chances of springing a trap.¹¹ Ultimately, he wanted to capitalize on the enemy's unpreparedness and sink as many ships as possible. For this task he selected his best trained, most capable, combat proven U-boat Commanders and crews.

Admiral Doenitz's operational plan for Paukenschlag was devised to take advantage of all the conditions he felt were prevalent in the operations area. Most importantly, it was centered on the strategic objective of the German Navy and the operational objective of the U-boat Force -- destruction of shipping to drive Britain from the war.

The operations plan, as conceived by Admiral Doenitz, the

⁴ The literal German translation equates to, "roll of the kettle drums."

operational commander for Paukenschlag, was as follows:

(1) Sailing independently, [five] U-boats were to proceed from their bases in France to the North American Continent. They were to comprise two loose groups for control purposes only and operate independently. One group of three was to be positioned along the American East coast and the other group of two was to be North along the Canadian coast.

(2) There, they were to be assigned individual operating zones that stretched from the Saint Lawrence River to Cape Hatteras.

(3) U-boats were to avoid contact with the enemy when approaching the operations area. When all five U-boats were nearing their assigned areas, U-boat Command was to communicate to them a day to begin the attack.* All boats were to commence attacks on that day. No attacks were to be made prior to this unless an enemy ship of 10,000 Gross Registered Tonnage (GRT) was sighted, or as directed by U-boat Command.

(4) Strict radio silence was to be maintained until the attacks began, except for initial short signal position reports, or as directed by U-boat Command.

(5) Once begun, attacks were to be concentrated against unescorted independently sailing coastal merchant shipping, except for ships from neutral countries.

(6) Following initial attacks, reports were to be made to U-boat Command on sinkings, enemy defenses, weather, shore

* Admiral Doenitz transmitted a message to the U-boats which directed the operation to commence on 13 January 1942.

lights, radio beacons, and fuel remaining.¹²

Admiral Doenitz's plan was clear, simple, and flexible. Its general yet specific nature set the operational constraints for Paukensschlag.

Operational/Communications Security. Admiral Doenitz personally briefed each U-boat commander on the general plan, but left out many specifics (e.g., the operations area). Sealed envelopes that contained the Paukensschlag Operations Area were provided to each Commanding Officer, but were only to be opened at sea. Individual operating zones were to be transmitted to the U-boats just prior to their entry into the operations area. In addition, the plan for Paukensschlag stressed that prior to commencement of the operation, the U-boats were to avoid contact with the enemy, and transmit messages only as previously stipulated. Surprise, for its operational impact and the safety of his forces, was essential to Admiral Doenitz.

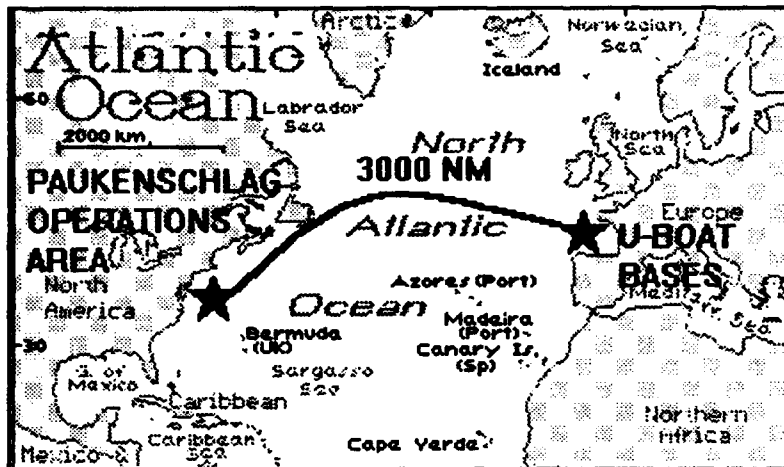
As concerned as he was about operational security, however, Admiral Doenitz did not believe that the compromise to his plan would come from the enemy breaking the U-boat Force's Codes and intercepting and analyzing the results.¹ In fact, however, British Intelligence had broken the codes and could read the message traffic sent between Admiral Doenitz and his U-boat Force.¹³ Due to this, the British accurately followed the progress of Paukensschlag and provided the intelligence to the

¹ In many interviews prior to his death, Admiral Doenitz was still reluctant to admit the success of British Intelligence.

United States and Canada.¹⁴ Fortunately for Admiral Doenitz, the intelligence would not be used by the Americans. This would permit his U-boats to execute the operation as planned.

FIGURE 2

ATLANTIC OCEAN



OPERATIONAL DESIGN

There are many elements to operational design. Among the most important are guidance, objectives, and critical factors. An analysis of these elements will provide further insight into Operation Paukensschlag.

Operational Guidance by Admiral Doenitz. Admiral Doenitz wanted to maintain his U-boat offensive against shipping destined

for Britain. Thus he shifted his operational fires for the third time in the war based on the change in theater conditions. He extended his operational reach to take advantage of enemy unpreparedness, aiming to maximize operational impact, both actual (in terms of shipping sunk) and psychological, by providing his U-boats the best available opportunity to sink Allied shipping.

For Operation Paukensschlag, Admiral Doenitz's maxim, and the operational guidance he provided his U-boat Commanders embarking on the operation was, "Attack!, Advance!, Sink!"¹⁵ What he alluded to was pursuing the enemy, attacking the enemy aggressively, and then sinking the enemy if possible. Sinking Allied shipping was the only way to drive Britain from the war, and spell victory for Germany in the Atlantic.

Strategic and Operational Objectives. As discussed, the German Navy was assigned the strategic objective of driving Britain from the war through economic strangulation. Admiral Doenitz felt that the operational objective of the U-boat Force was to sink as much Allied shipping as possible (to deny Britain critical supplies and war material and thus drive them from the war), in the most economical manner, to achieve the Navy's strategic objective.¹⁶

The operational objective of Paukensschlag was to maximize sinkings in the new operations area and significantly increase the amount of tonnage sunk per month to reach the 700,000 ton goal. For the operation to be successful, each boat per day-at-

sea had to maintain sinkings at the highest possible level.¹⁷

Tactical action was thus being used to achieve Paukensschlag's operational objective which in turn would help achieve the Navy's strategic objective.

Enemy Critical Factors. In discussing enemy critical factors, it should be noted that although Paukensschlag took place in mostly American waters, its operational objective was aimed at ultimately achieving the Navy's strategic objective.

The center of gravity the operation would attack was the Allied shipping carrying critical supplies and war materials to Britain from America (source of British strength) operating independently and vulnerably in the Western Atlantic.

OPERATIONAL SCHEME

Admiral Doenitz's operational scheme for Paukensschlag was comprised of several vital elements. These elements included culminating point, operational maneuver, operational coordination/synchronization, operational fires, operational deception, operational reconnaissance/intelligence, operational sustainment, and operational sequencing/phasing. The following analysis of those elements will provide further insight into the operation.

Culminating Point. Admiral Doenitz envisioned the culminating point would be "defined" by improved American defense

measures. Hence, as Admiral Doenitz said, "It was, therefore, of primary importance to take full advantage of the favorable situation as quickly as possible and with all available forces, before the anticipated changes occurred."¹⁸

Besides improved defense measures, other factors also defined culmination. They included opportunity to engage the enemy, and depletion of weapons, fuel, and other supplies. When all of the U-boats were no longer able to sink ships due to any one of these factors, or a combination thereof, the culmination point for the operation would be reached.

Operational Maneuver. Intrinsically, Admiral Doenitz's maneuvering of his forces from the mid to Western Atlantic was the operational maneuver for Paukensschlag.

Admiral Doenitz also designed the operational maneuver of the five U-boats in the operations area to maximize their fire against vulnerable Allied shipping. He positioned the U-boats where they could wreak the most havoc, near key ports and shipping routes. "Rudeltaktik" was not used, as it was considered more effective against convoys, when shipping was concentrated and easily overwhelmed. In addition, Admiral Doenitz felt that "the operations area was large, yet small enough to ensure that the U-boats were not scattered and unable to exploit the opportunities offered, but not too small so that if shipping was stopped or diverted the U-boats would not lose their opportunity to conduct offensive action."¹⁹

Operational Coordination/Synchronization. Throughout the war, Admiral Doenitz controlled all U-boat operations from his Headquarters. Paukenschlag was no exception. For this operation he provided general coordinating instructions for the U-boat's deployment and transit to the operations area. While enroute, Admiral Doenitz intended to transmit messages to the U-boats that coordinated their movement so they would arrive in the area concurrently. Thus, he could synchronize them for simultaneous attack in order to maximize the effects of the operation on the enemy, both actual and psychological, "like the roll of a kettle drum." He also intended to transmit messages that provided specific zones in the area that the U-boats were to concentrate their attacks. This was done primarily for water space management^a, and to position them where he felt they could be most successful.

Operational Fires. The five U-boats themselves comprised the operational fires for Paukenschlag. Their individual and combined combat power was capable of sinking ships of any tonnage. Successful use of the operational fires relied heavily on the unsuspecting and unprepared enemy.

However, one inadequacy existed. As discussed earlier, Admiral Doenitz had requested 12 but only received permission to use six U-boats. This was further reduced to five due to

^a Water space management ensures no "friendly" interference or losses. In effect, it is the same as air traffic control, but for submarines.

mechanical problems. Unfortunately, this limited number of U-boats prevented Admiral Doenitz from approaching the full potential of his concept.

Operational Deception. In mid-December 1941, Admiral Doenitz deployed a single U-boat, U-653, to an area Southeast of Greenland as an operational deception ploy for Paukenschlag. The task of the boat was to transmit dummy messages to give the impression to the Allies that a large number of U-boats had been deployed and were operating in the North Atlantic.²⁰ U-653 was tasked to conduct its operational deception mission from the end of December 1941 until the beginning of January 1942. However, due to the Communications Security problem discussed earlier, the ploy was ineffective.²¹

Operational Reconnaissance/Intelligence. Through German Intelligence, specifically radio monitoring, intercept, and analysis, Admiral Doenitz learned that shipping around North America was generally unescorted and sailed independently to convoy assembling points. The Cryptographic Section^b of the German Naval High Command had succeeded in breaking the British Royal Naval cipher earlier in the war, and provided U-boat Command with timely and accurate information regarding shipping.

While this information was valuable, Admiral Doenitz was still concerned about what lay ahead in the operations area. He

^b Commonly referred to as "B-Dienst."

felt that U-boats at sea were usually in the best position to provide, and did provide, U-boat Command with critical reconnaissance and intelligence information on defense measures and enemy shipping. This enabled Admiral Doenitz to more effectively direct his operational fires and better determine risk versus gain. Accordingly, he directed the Paukenschlag U-boats to send timely and accurate information with regards to enemy shipping and weak points in defense measures so that he could better direct the U-boats efforts during the operation.²² The U-boats could gather the information visually and through radio monitoring and intercept of Allied shipping communications traffic, which was generally sent in the clear.

Area reconnaissance was another issue altogether. The operations area was virtually unfamiliar territory for all concerned. The best area reconnaissance information available was provided to the U-boats in the form of "Tourist Guides and area maps."²³ Definitely not navigation charts, they were bereft of important navigational features such as buoys, lights, reefs, water depth, and so forth, but at least provided the "big picture." Once again, Admiral Doenitz directed the U-boats to report area reconnaissance information so that he could pass it on to all the Paukenschlag boats.

While intelligence for planning and conducting the operation was satisfactory, area reconnaissance was seriously lacking, which could have seriously impacted the operation.

Operational Sustainment. Limited predominantly by fuel

considerations, Admiral Doenitz selected the type of U-boat for the operation that he felt could best make the trans-Atlantic journey, conduct the operation, and safely return. He hoped that if the U-boats found their most efficient fuel condition on the transit to North America, along the shortest route, they could remain in the operations area for two or three weeks.²⁴

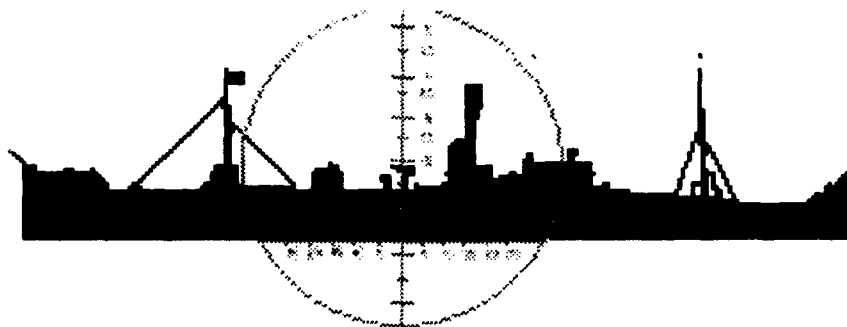
Operational sustainment was a grim prospect for a U-boat on a long deployment. Amenities did not exist. What a U-boat deployed with in terms of food, supplies, weapons, and the like is what they had to sustain them.²⁵ For Paukenschlag it would be worse because of the long transit times involved. As resupply U-boats¹ were not due to be operational until March or April 1942, the Paukenschlag boat commanders were personally advised by Admiral Doenitz to ensure adequate provisions for their boats on the long cruise.²⁶ All took his advice to heart and sacrificed already cramped quarters for larger quantities of spare parts, food, other expendable items, ammunition, and even filled some water tanks with fuel.²⁷

Operational Sequencing/Phasing. In the overall scheme of Germany's maritime campaign for the Atlantic, it would appear that the various shifts of operational fires were sequenced or phased. In actuality, it was a change in theater conditions (opportunity to engage the enemy, U-boat losses, or increased defense measures) that caused Admiral Doenitz to shift his fires.

¹ Commonly referred to as "Milch Cows", they were primarily used for refueling forward deployed U-boats.

A single "grand-plan" did not exist, nor did one exist for overall U-boat operations in the Western Atlantic. As per circumstance, Admiral Doenitz sent U-boats to an operations area until it became unprofitable and then shifted his fires. If anything, this was his plan for the Western Atlantic.

However, although originally given only six U-boats to conduct Paukensschlag, in early January 1942, Admiral Doenitz was finally able to convince Admiral Raeder that U-boats supporting North African operations in the Mediterranean were not worth the risk or gain (due to severe losses) and that the decisive theater, for the war against Britain -- and for realization of the strategic objective of the German Navy, was the Atlantic. Accordingly, he was finally permitted to use more U-boats in the maritime campaign for the Atlantic, especially in his newest operations area -- the Western Atlantic. This can be considered phasing of the operations in the Western Atlantic because it was triggered by a political consideration, which made additional forces available.²⁸



CHAPTER III

EXECUTION

Historical Summary. The five U-boats arrived in the Western Atlantic operations area on 13 January 1942 and simultaneously^{*} began Paukensschlag (see Figure 3). As Admiral Doenitz had envisioned, the operation was a complete surprise and the enemy was unprepared, even though they had been reading Admiral Doenitz's message traffic. In America, it was later known as the "Atlantic Pearl Harbor", and to the U-boat Force it was known as the beginning of their "Second Happy Time."

Off the American coast, conditions were found to be similar to peacetime. Coastal city lights and navigation lights burned brightly, allowing the U-boats to identify ships to attack at night (against the bright coastline) and navigate safely. Allied shipping also operated as though in peacetime. Ships steamed independently, with navigation lights on, and frequently communicated their position in the clear, making them easily locatable, identifiable, and susceptible to attack. Defense measures were virtually non-existent. Ships were mostly unescorted. Anti-submarine patrols were conducted in the same locations and at regular intervals making them predictable and avoidable by the U-boats.¹

^{*} One U-boat, U-123, sank a 10,000 GRT ship (SS Cyclops) on 11 January 1942, prior to Admiral Doenitz's commencement date, as permitted by the plan.

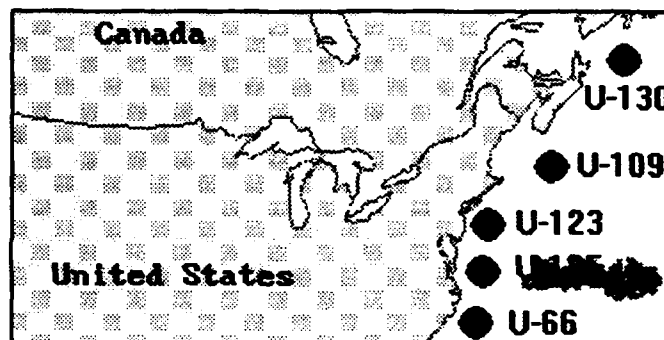
Off the Canadian coast, weather was a critical factor which particularly inhibited the U-boats in that area from being effective. Additionally, intense Canadian defense measures (unlike the Americans, they listened to the British) and poor navigational information further hindered successful attacks.²

As the U-boats communicated the initial results of the operation back to Admiral Doenitz, it became evident that his "Grey Wolves"^b off the American coast were unopposed and enjoying easy kills in a feeding frenzy. Thus, Admiral Doenitz sent the U-boats a message that accorded them complete freedom of action so that they did not find themselves restricted to an unprofitable area.³

On 7 February 1942, the final action by Paukensschlag U-boats occurred, and the operation concluded.⁴

FIGURE 3

LOCATION OF U-BOATS UPON COMMENCEMENT OF PAUKENSCHLAG



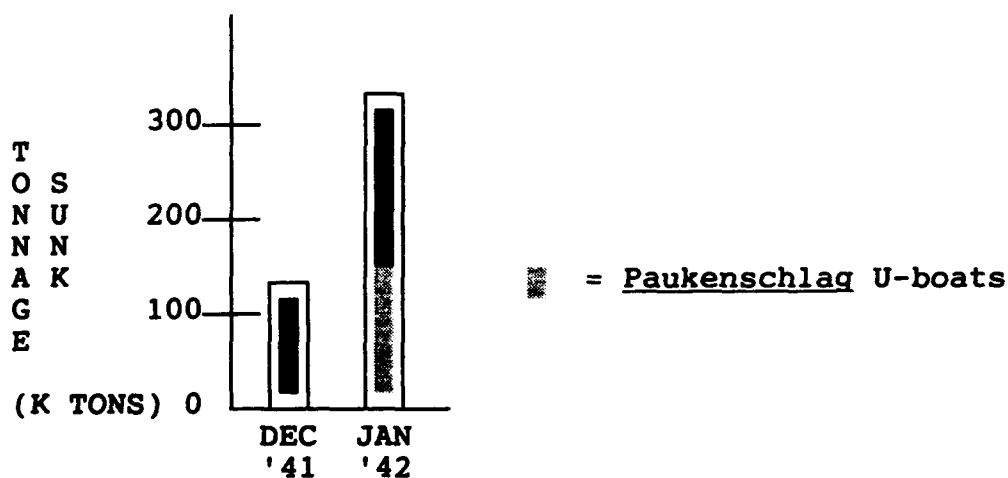
^b Term often used by Admiral Doenitz to describe U-boats.

Determination of Mission Accomplishment. Operation

Paukenschlag was a resounding success despite the inadequacies in its operational scheme. In all, 25 ships were sunk for a total of 156,939 tons.⁵ For the month of January 1942, 62 ships were sunk by U-boats worldwide for a respectable total of 327,357 tons.⁶ As can be seen, just under half of this figure was attributed to Paukenschlag boats. Further, the January figure was nearly triple the December figure of 124,070 tons (see Figure 4).⁷ Most importantly, no U-boats were lost during Paukenschlag.

FIGURE 4

TONNAGE SUNK BY U-BOATS WORLDWIDE
DECEMBER 1941 - JANUARY 1942



Paukenschlag exceeded Admiral Doenitz's expectations and convinced him that given enough U-boats, he could sustain operations in that lucrative part of the world and drive Britain

from the war.'

Relishing his operational success, but ever struggling with his limitations, Admiral Doenitz entered into his War Diary:

From the commanding officer's report it is perfectly clear that [Paukenschlag] could have achieved far greater success, had it been possible to make available the twelve boats for which U-boat Command asked, instead of the [five] by which the operation was carried out. Good use, it is true, was made of this unique opportunity, and the successes achieved have been very gratifying; we were, however, not able to develop to the full chances offered us.'

Admiral Doenitz believed that his U-boat Force was well on its way to meeting the goal of 700,000 tons sunk per month and winning the Battle of the Atlantic.

While the operation was a success, one factor cast a cloud over it. This factor was torpedo performance, and it was not new to the U-boat Force. While an exact figure does not exist, many of the torpedoes fired by Paukenschlag boats failed to explode. This frustrated the attacks of the U-boats on more than a few occasions and led to less of an operational success than could have been realized.

Consolidation of Operational Success. As has been discussed, Admiral Doenitz was permitted to send additional U-boats to the Western Atlantic and take advantage of the favorable conditions while they existed. This phased effort continued from January until July 1942. During this period, Admiral Doenitz first shifted his fires to the Caribbean (May), then back to the mid-Atlantic (July) due to changing theater conditions.

In June 1942, for the first and only time in the war, the U-

boat Force exceeded their goal of 700,000 tons sunk, with the majority of ships being sunk in the Western Atlantic. By July, however, the tonnage sunk figure had declined considerably as did sinkings in the Western Atlantic. Further action in the area became prohibitive due to U-boat losses, increased American defense measures^c, lack of operational success, and lack of U-boats due to an earlier redirection by Hitler.

On 22 January 1942, Hitler had concluded that Norway was a decisive theater for the U-boat Force to support because he felt an Allied invasion of Norway was imminent. Hence, he directed that all available U-boats proceed to Norway to form a reconnaissance and attack screen against Allied forces which might threaten the country. This ultimately prevented Admiral Doenitz from truly consolidating greater operational success by limiting his reinforcement capability to the Western Atlantic.

However, a day later, after hearing of the operational success of Paukensschlag, Hitler contended that U-boats should continue to be sent to the Western Atlantic. This variance to his initial direction still did not mean much change for Admiral Doenitz. Admiral Raeder still issued orders in late January and early February for the deployment of 20 total U-boats to the Norway theater. There, they remained through the early summer of 1942, virtually useless for their primary mission.¹⁰

^c Primarily convoys, and air and surface anti-submarine warfare.

CHAPTER IV

CONCLUSIONS

For achievement of the Germany Navy's strategic goal, Admiral Doenitz correctly postulated that the destruction of Allied shipping, and thus the vital supplies and war material being sent to Britain, was the objective his U-boat Force needed to attain. By successfully striking at the source of Britain's support through Operation Paukenschlag, and follow on deployments to the Western Atlantic, Admiral Doenitz came close to dealing Britain a decisive blow. However, lack of U-boat assets, combined with improved Allied defense measures, prevented him from cultivating this operational success to its full potential.

Lessons Learned. As discussions at the Naval War College have frequently pointed out, there is a particular value to be realized by the examination and analysis of historical operations. When probing these operations from the perspective of the operational level of war, their importance to operational commanders becomes clear. The lessons learned derived from the conduct of the operations become the framework for future operations. Further, as pointed out by Captain Gregg Larson, the validity of operational versus tactical lessons learned is that they are generally more long lasting.

This analysis of Operation Paukenschlag sheds new light into the operational art arena. The following conclusions and lessons

learned are provided for future operational planning considerations:

(1) Foremost among conclusions and lessons learned was Admiral Doenitz's shifting of operational fires, from the mid to Western Atlantic, based on the change in the theater of war conditions. Anticipating the new situation, he successfully recognized and took advantage of what it offered.

(2) Admiral Doenitz's operational design for Paukensschlag, although developed in minimal time, was exceedingly well conceived and planned. The flawless execution and success of the operation proved the correctness of his basic assumptions and concepts. Paukensschlag proved that well conceived operations, even those developed "on a shoestring", can be successful.

(3) While the operational objective of Paukensschlag was met with limited resources, an overall lack of U-boats prevented further consolidation of its operational success and the ultimate realization of the German Navy's strategic objective. Even with limited resources, operational objectives can initially be met. However, capitalizing on them without adequate resources is tantamount to eventual operational and strategic failure.

(4) The surprise attack on an unprepared enemy in a large operations area produced the desired psychological and operational impact. The results of Paukensschlag have often been referred to as the "Atlantic Pearl Harbor." Once again, surprise attack in an inadequately defended area forged the elements for operational success and permitted the offensive forces operational safety. Even though the Americans were provided

outstanding intelligence on Paukenschlag, their failure to act allowed the U-boats to enjoy unmitigated success as though it were a complete surprise.

(5) Admiral Doenitz correctly modified U-boat tactics from "Rudeltaktik" to independent attack to take advantage of the shipping conditions in the operations area. Recognition of the requirement to adapt to a different operational environment resulted in the design of the best operational maneuver, for the most effective direction of operational fires, to achieve optimum results.

(6) Long-haul high frequency communications were vital to the success of the operation. Admiral Doenitz's two way theater communications with the U-boats enabled him to best direct their efforts to maximize opportunity, impact, and results. Reliable communications were vital to the successful command and control of the operation. However, from a Communications Security standpoint, precautionary measures must be continuously taken to prevent an enemy from gaining ground truth intelligence from message traffic.

(7) Outstanding theater intelligence provided the essential foundation for the development of Paukenschlag. However, the tactical intelligence and area reconnaissance information provided by the U-boats in the operations area on enemy strength, shipping conditions, and hydrography was ultimately critical to Admiral Doenitz's long and short term decision making. Timely and reliable strategic, operational, and tactical intelligence and area reconnaissance information was essential for the success

of Paukenschlag and subsequent deployments to the Western Atlantic.

(8) The highly trained and combat proven U-boat commanders and crews selected for the operation, combined with the outstanding plan, were ultimately responsible for Paukenschlag's success. Admiral Doenitz's extensive training programs and selection of proven commanders and crews for the operation ensured for sound decision making in the operations area, which resulted in tactical and ultimately operational success. There was no substitute for Admiral Doenitz's rigorous training programs, and the combat experience of the U-boat crews. Further, this adds credibility to the fact that an opportunity for great operational success is nothing without warfighters capable of executing a plan and making its concept a reality.



NOTES

CHAPTER I - INTRODUCTION

1. Admiral Karl Doenitz, Memoirs, Ten Years and Twenty Days (Cleveland: World Publishing Company, 1959), p. 225.
2. Ibid., p. 150.
3. Ibid., p. 225.
4. Michael Gannon, Operation Drumbeat (New York: Harper Perennial, 1991), p. 93.
5. Doenitz, p. 43.
6. Ibid., p. 187.
7. Ibid., pp. 189-190.
8. Gannon, p. 195.

CHAPTER II - PLANS

1. Ibid., p. 227.
2. Fregattenkapitan Gunter Hessler, The U-boat War in the Atlantic 1939-1945 (London: Her Majesty's Stationary Office, 1989), Vol. II, p. 2.
3. Doenitz, p. 197.
4. Gannon, p. 76.
5. Doenitz, p. 154.
6. Samuel E. Morison, The Battle of the Atlantic, With an Introduction by Commodore Dudley Wright Knox, USN (Boston: Little, Brown and Company, 1950), p. 126.
7. Doenitz, p. 195.
8. Ibid., p. 196.
9. Ibid.
10. Gannon, p. 76.
11. Ibid.

12. Ibid., pp. 80-81.
13. Ibid., p. 151.
14. Ibid., pp. 156, 165, and 173-174.
15. Ibid., p. 81.
16. Doenitz, p. 196.
17. Ibid., p. 196.
18. Ibid.
19. Ibid., p. 198.
20. Gannon, p. 442.
21. Ibid., p. 158.
22. Doenitz, pp. 196-197.
23. Gannon, p. 137.
24. Doenitz, pp. 198 and 205.
25. Ibid., p. 205.
26. Gannon, p. 79.
27. Doenitz, p. 205.
28. Milan N. Vego, "Operational Design" (Unpublished Notes, U.S. Naval War College, Newport, RI, 1993), p. 21.

CHAPTER III - EXECUTION

1. Doenitz, p. 202.
2. Gannon, pp. 226-227.
3. Ibid., p. 227.
4. Ibid., p. 295.
5. Ibid., p. 296.
6. Captain S. W. Roskill, DSC, RN, The War at Sea 1939-1945. Vol. 2. The Period of Balance, ed. J.R.M. Butler (London: Her Majesty's Stationary Office, 1956), p. 104.

7. Terry Hughs and John Costello, The Battle of the Atlantic (New York: The Dial Press, 1977), p. 305.

~ 8. Gannon, p. 296.

9. Doenitz, p. 203.

10. Ibid., p. 207.

BIBLIOGRAPHY

- Bekker, Cajus. Hitler's Naval War. Translated and edited by Frank Ziegler. New York: Doubleday and Company, Inc., 1974.
- Clancy, Tom. Submarine. New York: Berkley Books, 1993.
- Cremer, Peter. U-Boat Commander. Annapolis: Naval Institute Press, 1984.
- Doenitz, Karl, Admiral. Translated by R. H. Stevens. Memoirs, Ten Years and Twenty Days. Cleveland: World Publishing Company, 1959.
- Gannon, Michael. Operation Drumbeat. New York: Harper Perennial, 1991.
- Grooms, Bruce E., Lieutenant Commander, USN. "Critical German Submarine Operations Versus Allied Convoys During March 1943: an Operational Analysis." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1993.
- Hessler, Gunter, Fregattenkapitan. The U-Boat War in the Atlantic 1939-1945. With an Introduction by Lieutenant Commander Andrew J. Withers, MA, RN. London: Her Majesty's Stationary Office, 1989.
- Hughs, Terry and Costello, John. The Battle of the Atlantic. New York: The Dial Press, 1977.
- Meigs, Montgomery C. Slide Rules and Submarines. With an Introduction by Congressman Ike Skelton. Washington: National Defense University Press, 1990.
- Morison, Samuel E. The Battle of the Atlantic. With an Introduction by Commodore Dudley Wright Knox, USN. Boston: Little, Brown and Company, 1950.
- Nimitz, Chester W., Fleet Admiral, USN and Potter, E.B., eds. The Great Sea War. New York: Bramhall House, 1960.
- Showell, Jak P. Mallmann. U-Boats Under the Swastika. 2nd ed. Annapolis: Naval Institute Press, 1973.
- Roskill, S. W. Captain, DSC, RN. The War at Sea 1939-1945. Vol. 2. The Period of Balance. Edited by J.R.M. Butler. London: Her Majesty's Stationary Office, 1956.

Vego, Milan N. "Operational Design." Unpublished Notes, U.S. Naval War College, Newport, RI: 1993.

Vego, Milan N. "Operational Lessons Learned." Unpublished Notes, U.S. Naval War College, Newport, RI: 1993.